

**Notice of Allowability**

Application No.

10/612,678

Examiner

Mujtaba K. Chaudry

Applicant(s)

MAR ET AL.

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2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/2/2006.
2. ☒ The allowed claim(s) is/are 6-11, 14 and 15.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

*[Signature]* 11/20/06

U.S. Patent and Trademark Office  
PTOL-37 (Rev. 08-06)

Notice of Allowability

*[Signature]*  
ALBERT DECADY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

Part of Paper No./Mail Date 20061120

### **REASONS FOR ALLOWANCE**

Claims 6-11, 14 and 15 are allowed. The following is an Examiner's statement of reasons for allowance:

Independent claim 6 of the present application teaches a Viterbi decoding device with a multi-data input and a multi-data output, comprising: a branch metric calculating circuit performing branch metric calculating operations on two consecutive input data according to two sets of target levels, respectively, to obtain a plurality of branch metric values, wherein said two sets of target levels are obtained via a partial response channel PR(1,1,1,1) and are (-2,-1,0,1,2) and (-1.5,-1,0,1,1.5); an adder-comparator-selector unit coupled to said branch metric calculating circuit, performing accumulative additional operations of said branch metric values to obtain a plurality of accumulated values, comparing said plurality of accumulated values in groups, and outputting a plurality of control signals and a plurality of least accumulated values according to the comparing results; a metric register unit coupled to said adder-comparator-selector unit, receiving and storing said plurality of least accumulated values, and feeding back said plurality of least accumulated values to said adder-comparator-selector unit to perform next accumulative additional operations; a survivor memory unit coupled to said adder-comparator-selector unit, and recording a plurality of output-data state transition tracks in response to said plurality of control signals; and a decision unit coupled to said metric register unit and said survivor memory unit, determining the combinations of a plurality of probable output-data state transition tracks as said consecutive output data according to said plurality of least accumulated values. The foregoing limitations are not found in the prior arts of record. Particularly, none of the prior arts of record teach nor fairly suggest, "...a branch metric calculating circuit performing branch

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metric calculating operations on two consecutive input data according to two sets of target levels, respectively, to obtain a plurality of branch metric values, wherein said two sets of target levels are obtained via a partial response channel PR(1,1,1,1) and are (-2,-1,0,1,2) and (-1.5,-1,0,1,1.5)..."

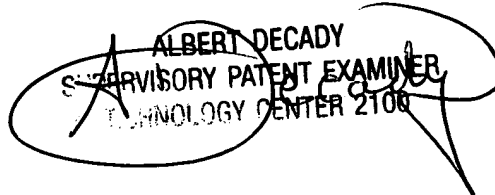
Independent claim 14 includes similar limitations of independent claim 6 and therefore is allowed for similar reasons.

Dependent claims 7-11 and 15 depend from allowable independent claims and inherently include limitations therein and therefore are allowed as well.

Any inquiries concerning this communication should be directed to the examiner, Mujtaba Chaudry who may be reached at 571-272-3817. The examiner may normally be reached Mon – Thur 6:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, please contact the examiner's supervisor, Albert DeCady at 571-272-3819.

  
Mujtaba Chaudry  
Art Unit 2133  
November 20, 2006

  
ALBERT DECADY  
SUPERVISORY PATENT EXAMINER  
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